Additional Cancer Risk Factors

Menstrual and Reproductive Factors

Early onset of menarche (< 12 years old) has been associated with a modest increase in breast cancer risk (twofold or less). Women who undergo menopause before age 30 have a twofold reduction in breast cancer risk when compared with women who undergo menopause after age 55. A first full-term pregnancy before age 30 appears to have a protective effect against breast cancer, whereas a late first full-term pregnancy or nulliparity may be associated with a higher risk. There is also a suggestion that lactation protects against breast cancer development.

Radiation Exposure

An increased rate of breast cancer has been observed in survivors of the atomic bomb explosions in Japan, with a peak latency period of 15 to 20 years. It has also been noted that patients with Hodgkin lymphoma who are treated with mantle irradiation, particularly women who are younger than age 20 at the time of radiation therapy, have an increased incidence of breast cancer.

Exogenous Hormone Use

In regard to hormone replacement therapy (HRT) or postmenopausal hormone use, results from the Women's Health Initiative (WHI) showed that the overall risks of estrogen plus progestin outweigh the benefits. This large randomized clinical trial sponsored by the National Institutes of Health (NIH) included more than 16,000 healthy women. Results from the WHI trial were published in 2002, after an average 5.6 years of follow-up, and included a 26% increase in risk of invasive breast cancer among women taking estrogen plus progestin, as compared with women taking placebo. In addition, in women taking these hormones, there were increased risks of heart disease, stroke, and blood clots.

The NIH stopped the estrogen-alone arm of the WHI trial in March 2004. No increase in breast cancer risk was observed in the estrogen-alone arm during the study period (7 years of follow-up). The NIH concluded that estrogen alone does not appear to increase or decrease a woman's risk of heart disease, although it does appear to increase her risk of stroke and decrease her risk of hip fracture.

Following the publication of the WHI trial results, the use of HRT in the United States declined by almost 40% from 2002 to 2003. During approximately the same period, there was a 6.7% decline in the age-adjusted incidence of breast cancer. Furthermore, the decrease was evident only among women 50 years of age and older and primarily among those with estrogen receptor–positive breast cancers.

Alcohol

Moderate alcohol intake (two or more drinks per day) appears to modestly increase breast cancer risk.

High-Fat Diet

Diets that are high in fat have been associated with an increased risk for breast cancer. Women who have diets high in animal fat from high-fat dairy foods have an increased risk of developing breast cancer. Whether the increase in breast cancer risk is associated with the fat content or an unknown carcinogen in these foods is unclear. There is no association between the consumption of red meat and an increased risk of breast cancer.

Obesity

Alterations in endogenous estrogen levels secondary to obesity may enhance breast cancer risk. Obesity appears to be a factor primarily in postmenopausal women.

In late 2007, the relative risks of cancer incidence and mortality from the Million Women Study were reported. The study analyzed data on 1.2 million women in the UK (age from 1996-2001, 50-64 years) who were followed for an average of 5.4 years for cancer incidence and 7 years for cancer mortality. In all, 45,037 incident cancers and 17,203 deaths from the disease occurred during follow-up. An increased incidence of breast cancer with increasing body mass index (BMI) was noted. For breast cancer, the effect of BMI on risk differed significantly according to menopausal status (relative risk in postmenopausal women = 1.40). Calculations were adjusted for BMI, age, geographic region, socioeconomic status, age at first birth, parity, smoking status, alcohol use, physical activity, number of years since menopause, and use of HRT.

Source: 2018. Cancer Network, Home of Journal of Oncology

Having a family history of breast cancer

It's important to note that most women (about 8 out of 10) who get breast cancer *do not* have a family history of the disease. But women who have close blood relatives with breast cancer have a higher risk:

- Having a first-degree relative (mother, sister, or daughter) with breast cancer almost doubles a woman's risk. Having 2 first-degree relatives increases her risk about 3-fold.
- Women with a father or brother who have had breast cancer also have a higher risk of breast cancer.

Overall, less than 15% of women with breast cancer have a family member with this disease.

Having a personal history of breast cancer

A woman with cancer in one breast has a higher risk of developing a new cancer in the other breast or in another part of the same breast. (This is different from a recurrence or return of the first cancer.) Although this risk is low overall, it's even higher for younger women with breast cancer.

Your race and ethnicity

Overall, white women are slightly more likely to develop breast cancer than African-American women. But in women under age 45, breast cancer is more common in African-American women. African-American women are also more likely to die from breast cancer at any age. Asian, Hispanic, and Native American women have a lower risk of developing and dying from breast cancer.

Having dense breast tissue

Breasts are made up of fatty tissue, fibrous tissue, and glandular tissue. Someone is said to have dense breasts (on a mammogram) when they have more glandular and fibrous tissue and less fatty tissue. Women with dense breasts on mammogram have a risk of breast cancer that is about 1.5 to 2 times that of women with average breast density. Unfortunately, dense breast tissue can also make it harder to see cancers on mammograms.

A number of factors can affect breast density, such as age, menopausal status, the use of certain drugs (including menopausal hormone therapy), pregnancy, and genetics.

For more information, see our information on breast density and mammograms.

Certain benign breast conditions

Women diagnosed with certain benign (non-cancer) breast conditions may have a higher risk of breast cancer. Some of these conditions are more closely linked to breast cancer risk than others. Doctors often divide benign breast conditions into 3 groups, depending on how they affect this risk.

Non-proliferative lesions: These conditions don't seem to affect breast cancer risk, or if they do, the increase in risk is very small. They include:

- Fibrosis and/or simple cysts (sometimes called *fibrocystic changes* or *disease*)
- Mild hyperplasia
- Adenosis (non-sclerosing)
- Phyllodes tumor (benign)
- A single papilloma
- Fat necrosis
- Duct ectasia
- Periductal fibrosis
- Squamous and apocrine metaplasia
- Epithelial-related calcifications
- Other tumors (lipoma, hamartoma, hemangioma, neurofibroma, adenomyoepithelioma)

Mastitis (infection of the breast) is not a tumor and does not increase the risk of breast cancer.

Proliferative lesions without atypia (cell abnormalities): In these conditions there's excessive growth of cells in the ducts or lobules of the breast, but the cells don't look very abnormal. These conditions seem to raise a woman's risk of breast cancer slightly. They include:

- Usual ductal hyperplasia (without atypia)
- Fibroadenoma
- Sclerosing adenosis
- Several papillomas (called *papillomatosis*)
- Radial scar

Proliferative lesions with atypia: In these conditions, the cells in the ducts or lobules of the breast tissue grow excessively, and some of them no longer look normal. These types of lesions include:

- Atypical ductal hyperplasia (ADH)
- Atypical lobular hyperplasia (ALH)

Breast cancer risk is about 4 to 5 times higher than normal in women with these changes. If a woman also has a family history of breast cancer and either hyperplasia or atypical hyperplasia, she has an even higher risk of breast cancer.

For more information, see Non-cancerous Breast Conditions.

Lobular carcinoma in situ (LCIS)

In LCIS, cells that look like cancer cells are growing in the lobules of the milk-producing glands of the breast, but they are not growing through the wall of the lobules. LCIS is also called *lobular neoplasia*. It's sometimes grouped with ductal carcinoma in situ (DCIS) as a non-invasive breast cancer, but it differs from DCIS in that it doesn't seem to become invasive cancer if it isn't treated.

Women with LCIS have a much higher risk of developing cancer in either breast.

Starting menstruation (periods) early

Women who have had more menstrual cycles because they started menstruating early (especially before age 12) have a slightly higher risk of breast cancer. The increase in risk may be due to a longer lifetime exposure to the hormones estrogen and progesterone.

Going through menopause after age 55

Women who have had more menstrual cycles because they went through menopause later (after age 55) have a slightly higher risk of breast cancer. The increase in risk may be because they have a longer lifetime exposure to the hormones estrogen and progesterone.

Having radiation to your chest

Women who were treated with radiation therapy to the chest for another cancer (such as Hodgkin disease or non-Hodgkin lymphoma) when they were younger have a significantly higher risk for breast cancer. This varies with the patient's age when they got radiation. The risk is highest if you had radiation as a teen or young adult, when your breasts were still developing. Radiation treatment after age 40 does not seem to increase breast cancer risk.

Exposure to diethylstilbestrol (DES)

From the 1940s through the early 1970s some pregnant women were given an estrogen-like drug called *DES* because it was thought to lower their chances of losing the baby (miscarriage). These women have a slightly increased risk of developing breast cancer. Women whose mothers took DES during pregnancy may also have a slightly higher risk of breast cancer.

Source: 2018. American Cancer Society, Breast Cancer Risk and Prevention